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MANAGE THE SWINE ENTERPRISE FOR PROFIT

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Plan for Profit

The expectation of generating a profit is the reason a farmer elects to produce pork. Profit, mysterious to some producers and as common and understandable as apple pie to others, is often defined as "something left over at the end of the year -- if I'm lucky." This attitude is the "beginning of the end" for many enterprising "would-be" pork producers. Although profits are never guaranteed, they are more likely to accrue when the producer plans for them. The managers who clearly understand profit and the interrelationships that affect it have a far better chance of consistent profits from their swine enterprise.

The basic profit relationship is so simple that any businessman can define it,

Profit = Income - Expenses

yet many pork producers do not understand the powerful inplications of this basic formula. Rewriting this equation permits the identification of the elements of profit.

Profit = (Pounds of Pork Sold x Price per Pound)
-(Pounds of Pork Sold x Cost per Pound)

If profits do not meet expectations, the manager has one very important question to ask himself --"Why?" From the above equation it can be seen that only three things directly affect the profit from the swine enterprise.

They are:

1) Volume
2) Price
3) Cost

The power of understanding and controlling profit comes directly from understanding the effect each of these can have on profit. The pork producer wishing to increase his profits can do it in one of three ways or some combination of them:

1) Increasing volume
2) Increasing price
3) Decreasing cost

Increasing the size of the swine enterprise can do all three. Farrowing more sows or buying more feeders is by definition an increase in volume. Increasing volume multiplies the profit (It also can multiply loss os a manager should be certain he is multiplying profit rather than loss). Increased size can mean higher prices. Increased volume can result in the producer being viewed as a more reliable source of pork. Mnay packers are willing to pay a previum if they can depend on a producer for a constant supply of consistently high quality pork. Increased volume may also permit a producer to take advantage of marketing strategies to insure higher prices that would not be available to smaller producers. Increasing size can decrease the cost of producing a pound of pork. Costs of production are divided into two categories -- fixed and variable. Fixed costs consist primarily of the depreciation, insurance, repair, taxes, and interest associated with swine buildings and equipment. Variable costs would include feed, supplies, and etc. Increasing the number of hogs sold generally results in using buildings and equipment more efficiently and reduces fixed costs per pound of pork sold. Having more hogs to sell means that a producer is purchasing more feed and supplies.

Purchasing in larger quantities often qualifies a producer for volume discounts resulting in lower variable costs of production. Thus it is easy to understand why so many pork producers are asking the question, "How large should my swine enterprise be?"

How Big

There is no single factor which determines the best or most profitable size of the swine enterprise so there is no single answer to the question. Some factors are of major importance and will be discussed.

Efficiency of the Manager

The optimum size of the swine enterprise depends to a larger degree upon the efficiency of the operator in buying resources (feed, supplies, buildings, etc.) and converting them into pork (feed conversion, pigs weaned per litter, labor per pound of pork, etc.). A certain level of efficiency is required to make any profit. The average hog producer makes a profit during the upswing in hog prices but loses money during the downswing. The below average producer only makes a profit when prices are most favorable. The above average producer "turns a profit" even when prices are too low according to most producers. The information in Table 1 illutrates the difference between the above average and below average manager.

Table 1. Pork Production - Costs and Returns
1974 Ohio Farm Business Analysis

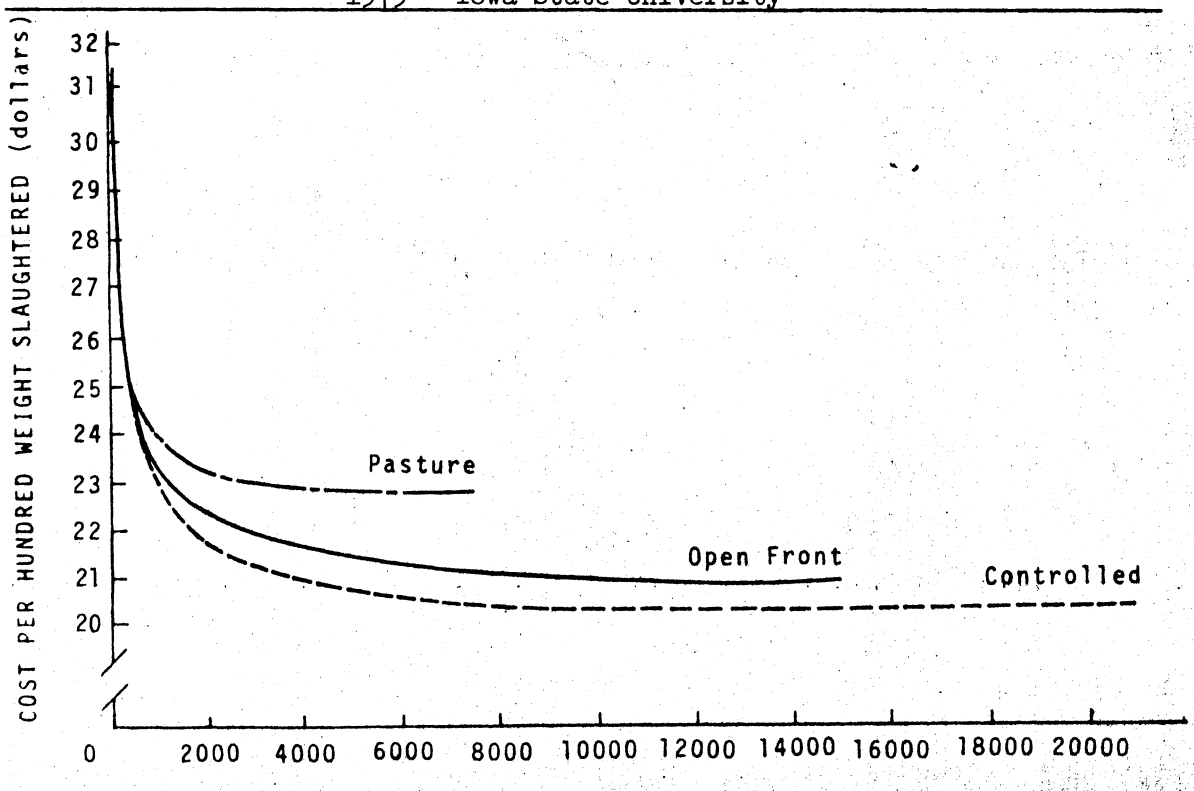
Item	Percentage of Producers		
	Most Profitable 25%	Mid 50%	Least Profitable 25%
	($/cwt.)	($/cwt.)	($/cwt.)
Feed Cost	$25.86	$26.46	$35.56
Other Cost	6.73	9.37	11.31
Labor Cost	3.88	3.00	4.90
Total Cost	36.47	38.83	51.77
Price Received	37.53	36.46	36.91

It seems that good feed records are important. The optimum size of the hog enterprise will depend on the operators ability to keep feed costs low. The opportunity to obtain a higher price is also evidenced by Table 1. Being aware of price fluctuations and following good marketing practices such as marketing large and uniform lots pays off. Unless a manager can do a good job on both the production and marketing sides he probably cannot be competitive beyond the size where he is simply utilizing fixed resources that would other wise go unused.

Size-Cost Relationship

In most enterprises there is typically a decline in the cost per unit of production as the size of the enterprise increases. These economies are obtained at relatively small sizes with the swine enterprises. Table 2 illustrates this relationship and shows that most of the "economies of size" are gained by the producing of 1000 hogs per year and that going beyond 2000 hogs per year will probably have little effect on the cost per hundred weight of pork.

Table 2. Budgeted Costs of Production vs. Size
1975 - Iowa State University



Limit to Size

The limit to the size of any individual operation is quite clearly the management capacity of the operator. A good manager with higher costs and a larger enterprise can earn more profit than the manager with a smaller enterprise and lower costs of production. The farmer desiring a large operation is advised to proceed slowly towards his goal. It's one thing for a good manager with his costs under control to go from 500 to 1000 to 2000 and yet another for a manager with no experience to set up a unit to produce 2000 pigs a year from scratch. It is easy to identify both situations. The operator must allow time for his management skills to develop along with his larger size. A good saying to keep in mind is "By the inch it's a cinch but by the yard it's hard."

Computerized Assistance

Hog producers in Ohio were invited to attend a Swine Management Seminar in December and were introduced to a computer model that could help them in planning their swine enterprise for a profit. The model was developed assist swine producers in developing, evaluating, and comparing long range plans for their swine enterprise.

Problems Addressed

The model is designed to help answer questions in four basic problem areas faced by swine farmers:

1) Enterprise Selection
2) Size and Growth
3) Building Types
4) Scheduling

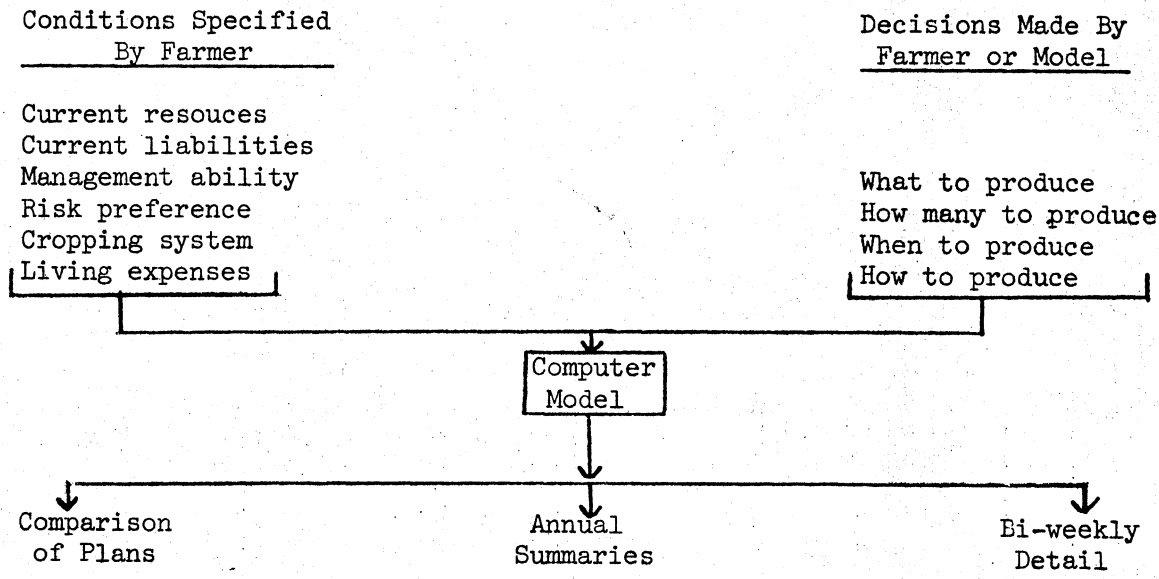
The model can be used to analyze questions such as:

1) How many sows should I farrow?
2) How many feeders should I buy?
3) What type of farrowing or finishing house should I build?
4) How fast should I grow?
5) What if I add 100 sows?
6) What if I build a farrowing house?

Modes of Operation

The model is designed so that a producer can compare the continuation of his present plan with two alternative plans. Each plan is projected for a five year period. A "budgeting" mode is used to generate plans for the current and specific alternative plans. An "optimizing" mode is used to generate a "best" plan for the farm. Using the "budgeting" the farmer specifies: what will be produced, schedule of operations, type of buildings to construct, and size and rate of growth. Using the "optimizing" mode the model can make these decisions.

Schematic of Model



Model Results

Shown below are the results a farmer received that helped him make decisions on his farm.

The results (Table 3) indicate what Mr. Jennings might expect his business to look like in 1979 (5 years in the future) if he were to follow any of the three plans described. Notice that the change he suggested (Alt 1) results in an increase of $45,000 in net worth over his current farm plan. The computer plan for the Jennings farm does even better than that. If Mr. Jennings were to follow the computer plan and his price expectations (entered into the computer the same for each plan) were fulfilled, he might expect to generate an additional $92,000 in net worth.

Table 3. JENNINGS FARM - 1979

Item	PLAN ID		
	Present	ALT 1	Computer
Farm Plan			
Acres of Corn	525	525	525
Acres of Soybeans	175	175	175
Sows Farrowed	90	150	180
Hogs Sold	1354	2412	2909
Management System	6 litter	6 litter	8 litter
Buildings Built			
Gestation	None	Open-slats	Closed-slat
Farrowing	None	Crates-slats	Crates-slat
Nursery	None	Closed-slats	Closed-slat
Feeding	None	Closed-slats	Open-slat
Profitability			
Total Assets	$1,177,000	$1,206,000	$1,250,000
Total Liabilities	$ 74,000	$ 118,000	$ 115,000
Net Worth	$1,043,000	$1,088,000	$1,135,000

Mr. Jennings decided to let the computer select the size, management system, and buildings. Notice that it did not select, as best, the same as he did. The computer found it more profitable to:

1) Get larger - 30 sows
2) Operate more intensively - 8 rather than 6 litter
3) Construct different types of facilities

The results of the model were instrumental in the Jennings' decisions to 1) expand more than they had anticipated, 2) move to an 8-litter system, and 3) build open fronted-partial slot feeding facilities.

This computerized decision aid is a powerful tool that swine producers can use to assist in the analysis of many of the problems as they plan for the future. It is a very useful tool to present analyses of proposed changed to bankers. The model has been well received and is available for use by contacting Dr. Allan E. Lines, Extension Economist, The Ohio State University.

The Future

An important part of every managers job as he "plans for profit" is to assess the future of his industry. In doing so he should be concerned about the prices and costs of the major components of his enterprise. The swine producers expectations of hog prices, corn prices, the price of soybean oil meal, and the cost of buildings will by-in-large determine plans for the future of his enterprise. Attempting to "second-guess" the market is a tenuous business that this author's best judgment leads to the following conclusions.

Hog Prices

Available statistics seem to indicate that hog prices will hold strong during the first quarter of 1976, in the $45-$47 range. The second quarter will see some weakening of prices, possibly into the $42-$44 range. The third quarter should see some strengthening of prices, back to about $45. The fourth quarter, when hog marketings are expected to see a significant increase, hog prices are expected to fall into the area of $40. Looking ahead to 1977 we can expect prices in the range of $35-$38. It's entirely possible that 1978 will bring prices in the neighborhood of $30.

Corn Prices

The current supplies of corn, a normal crop year, little change in exports, and increased domestic use will probably result in the price of corn gradually declining from its current level to about $2.00 per bushel at harvest time this fall. The price over the next few years will reflect the effect of inflation and we might expect an average price of $2.25 during 1977 and $2.35 during 1978.

Soybean Prices

From all indications weak soybean prices will be the rule during the next few years, barring any unforeseen weather calamities throughout the world. It's reasonable to assume that the price of soybean oil meal should remain in the $120-$150 per ton range during the next couple of years. There will of course be some upward pressure as the cost of production increases with inflation.

Buildings and Equipment

Of most concern to those farmers expanding and/or replacing their current production facilities, the prices of new buildings and equipment are expected to increase from 8-10% per year. This is somewhat greater than the expected rate of inflation of from 6-8% per year. Producers will continue to add environmentally controlled farrowing and nursery facilities. These buildings will reduce labor and feed requirements at the same time increase capital requirements, operating costs, and the number of pigs saved per litter. Finishing buildings construction is tending toward the open-fronted type. Sow gestation quarters will for some time to come consist of utilizing older existing facilities - mostly of the open-shelter drylot type.

Role of Feed Manufacturers

Feed manufacturers can be instrumental in organizing educational meetings to implement the application of computerized management decision aids, such as the one discussed above. Using management tools such as these will help producers recognize opportunities for more profit from larger units. Larger production units can mean increased sales of feed and increased profits for the feed manufacturer.

As hog production units become larger in size and managers begin to "plan for profits" feed manufacturers will continue to play a vital role in the production process. On farm storage and feed formulation becomes increasingly attractive from an economic standpoint as production units become larger. Feed manufacturers should not overlook the opportunities for increased sales of ingredients rather complete mixes to these large operators.

Being sure the producer is knowledgeable in nutrition, assisting him in formulating a least-cost ration that will meet the requirements of his livestock, and providing the ingredients can be profitable. Feed Manufacturers should be careful not to view on-farm-feed formulation as a threat to their business. Good management will view this trend as an opportunity, develop an aggressive sales program to exploit the situation, and generate and profit from what, at first glance, appears to be a threat to business.